

REMARKS

The Office Action dated November 21, 2003 has been reviewed carefully and it is believed that the application is in condition for allowance.

Allowed Claims

Applicants gratefully acknowledge the allowance of claim 10-18, 37 and 38.

Claim Rejections - 35 U.S.C. § 112

Claims 28-36 were rejected under 35 U.S.C. § 112, first paragraph, on the basis that the Specification, while being enabling for a direct methanol fuel cell system, does not reasonably provide enablement for other types of fuel cells along with other types of fuels.

The Examiner indicates that the entire Specification and claims are directed to a direct methanol fuel cell system that functions by supplying methanol to the anode to produce electricity. However, on page 1, beginning at line 14, the Specification states: "fuel cell systems may be divided into 'reformer based' (i.e., those in which the fuel is processed in some fashion before it is introduced into the cell) or 'direct oxidation' in which the fuel is fed directly into the cell without internal processing."

The Specification then goes on to state at page 1, line 20 that "an example of the direct oxidation system is the direct methanol fuel cell system or DMFC."

Thus, Applicants have clearly stated in the Specification that the application relates to a type of fuel cell known as a direct oxidation fuel cell. This type of fuel cell directly oxidizes fuel in the electrochemical reactions to create electricity. It does not use hydrogen in a gaseous form as the fuel product, such as in a reformer-based system. Applicants also clearly state that a direct methanol fuel cell system is one example of a direct oxidation fuel cell system.

In terms of the fuel that can be used, on page 6, beginning at line 2, the Specification states "It should also be understood that the present invention may be used with fuels other than methanol/water mixtures."

Those skilled in the art would be aware of other types of direct oxidation fuel cell systems that would operate with other carbonaceous fuels that can be directly oxidized on the anode of the fuel cell as part of the electricity-generating reactions of the fuel cell.

The Specification enables those skilled in the art to make and use the direct oxidation fuel cell system without undue experimentation using other carbonaceous fuels within a direct oxidation fuel cell system. Methanol is one example of a fuel for such a system.



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In order to clarify this aspect of the claims, Applicants have amended independent claims 28 and 30 to recite that the fuel for the direct oxidation fuel cell is a "carbonaceous fuel". Other claims have been amended to recite proper antecedent basis in view of the amendment to the independent claims.

Claims 39 and 40 were rejected under 35 U.S.C. § 112, second paragraph, on the basis that there was no antecedent basis for the fuel cell of claim 28. Applicants have herein changed the dependency of claim 39 and 40 to depend upon claim 28 and have made the corresponding changes to assure proper antecedent basis.

Please do not hesitate to contact the undersigned in order to advance the prosecution of this application in any respect.

Please charge any additional fee occasioned by this paper to our Deposit Account No. 03-1237.

Respectfully submitted,

Rita M. Rooney
Reg. No. 30,585
CESARI AND MCKENNA, LLP
88 Black Falcon Avenue
Boston, MA 02210-2414
(617) 951-2500